

Case Examples

Supporting Disaster Risk Reduction and Climate Change adaptation

Module 5: Supporting Disaster Risk Reduction and
Climate Change Adaptation at the Local Level

Enhancing VLRs for Sustainable, Green and Resilient
Recovery & Transitions



UNITED NATIONS
DEPARTMENT OF ECONOMIC
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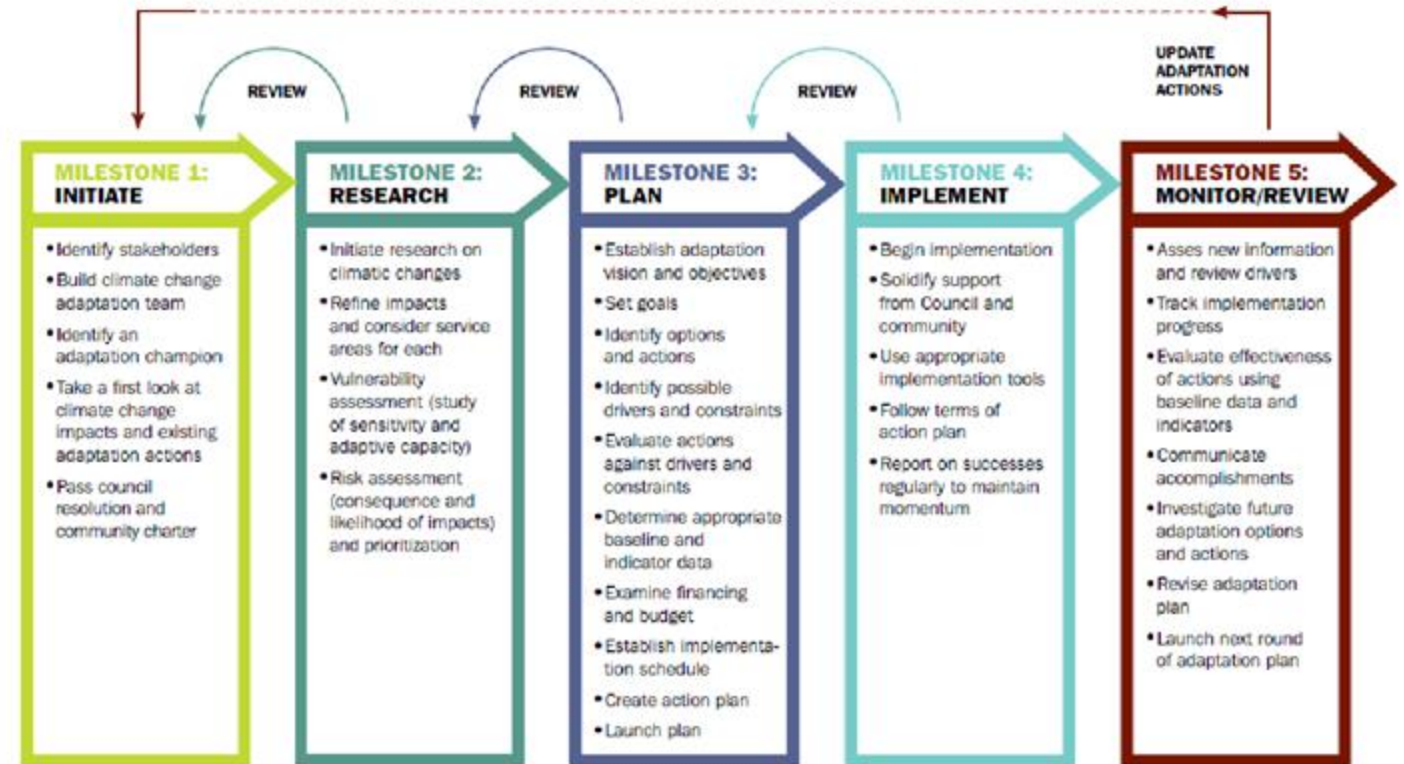
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Case Example

Guide and Workbook for Municipal Climate Adaptation, ICLEI Canada

- Communities are preparing a Local Climate Change Adaptation Plan to place an emphasis on assessing, managing, and monitoring the physical and transitional impacts of climate change.
- Local Governments for Sustainability (ICLEI) in Canada published a **Guide and Workbook for Municipal Climate Adaptation** and outline five key milestones for adaptation planning.



Case Example

Making Smart Cities Initiative, Campinas, Brazil

- Making Smart Cities is the corporate social responsibility initiative of AI Systems Research Ltda (AISR)
- The initiative aims to enable partner cities to significantly maximize the potential of their investments and the reduction of urban risks through the use of analytical and decision-making support tools, provided at no cost, to achieve a culture of proactive risk management in public policies.



The initiative is structured around three pillars, which aim to support local governments in the following challenges:

1. **Risk management** - Identification, understanding and management of any type of urban risk based on an analytical approach.
2. **Socioeconomic development** - Assessment and reduction of socioeconomic impacts related to urban risks. It also allows analytical management of socio-economic development programs, socio-territorial analysis and community monitoring.
3. **Environmental management** - Assessment and reduction of environmental impacts related to urban risks. It also allows analytical management and monitoring of environmental programs.

Case Example

Finance from Land-value Capture, India

- Land value capture is a source of public revenue that is being used to fund development projects across Asia and Pacific.
- The Asia Development Bank emphasizes that land value capture “offers the opportunity to strategically direct development to less disaster-prone areas, share costs for disaster-mitigating infrastructure, and provide incentives for others to invest in disaster risk-reducing measures”

Source: ([ADB, 2020](#))

Betterment Levies in Pune, India

- **Instrument:** An additional tax/special rate levied to property owners within a specifically defined geographic area, which is regarded as the main concentration of beneficiaries of respective publicly funded infrastructure upgrades
- **Purpose:** The Local Municipal Corporation in Pune is considering complex improvements on the banks of three rivers flowing through the municipality (building embankments for flood protection, sewage treatment, desilting, landscaping, and enhancing connectivity between the banks).
- **Value capture component:** Recovery of municipal costs through charging flood premiums on top of construction permitting fees. Changes in town planning codes proposed to allow development in the 25-year flood zones on condition of recovering a flood premium from developers.

Source: [World Bank, 2018](#)

Case Example

The “Get Prepared: Ready New York” Initiative

As a way to engage the citizens of New York City in emergency planning, the local government implemented its “Get Prepared: Ready New York” initiative.

This educational campaign encouraged preparedness planning for residents through 11 multilingual publications, numerous public service announcements, multimedia advertising, extensive web content, a speaker’s bureau, a reprinting program, corporate partnerships, and continuous community outreach.



Preparedness tips include how to make a readiness plan and gather supplies, as well as where to get information and understanding when and how to evacuate or shelter in place as directed by public authorities.



Case Example

Sponge Cities in China

In 2014 the Chinese government introduced the idea of 'sponge cities' to address urban flooding by increasing rainwater permeability in vulnerable cities.

Sponge cities are a context-specific urban approach to integrated water resource management that use grey-green infrastructure like waterways and greenways, green roofs, porous design and water-saving approaches to control urban flooding, limit water pollution, recycle rainwater and reinstate degraded environments.



The government chose 30 cities as pilots. The goal is to retain as much water as possible during the wet season by limiting erosion and slowing run-off so that it is absorbed into the surrounding soils and drainage systems and available to meet needs when droughts hit.

Case Example

Rapid Earthquake Damage Assessment System – Part of the DRR Management System in *Makati, Philippines*

- Under the Philippines Disaster Risk Reduction Act of 2010, Makati City established pioneering DRR management units, including in all of its 33 administrative units.
- The Makati DRR Management Committee and its 33 administrative unit committees, enacted relevant legislations and policies to mainstream DRR in local development plans and budget (e.g., at least 5% of the city's total revenue is allocated to the Local Disaster Risk Reduction and Management Fund).



- DRR Management Committee conducted training on **Rapid Earthquake Damage Assessment System (REDAS)** in 2016.
- REDAS is a software package that produces a user-friendly rapid estimate of possible seismic hazards for inferring the severity of impact to various elements-at-risk.
- REDAS provides disaster managers with simulated earthquake hazard information for assessing the impact of a strong earthquake and informing decision-making and science-based planning.

Case Example

Disaster Resilience Scorecard for Cities

Making Cities Resilient 2030

United Nations Office for Disaster Risk Reduction

- The online Scorecard provides a set of assessments that allow local governments to assess their disaster resilience, structuring around UNDRR's Ten Essentials for Making Cities Resilient.
- The Industrial and Commercial Buildings Scorecard Enables the establishment of a baseline for the resilience of buildings and campuses to natural or man-made disasters

Example of indicator for seismic risk assessment - Disaster Resilience Scorecard for Industrial and Commercial Buildings

Ref	Subject / Issue	Question / Assessment Area	Indicative Measurement Scale	Comments
8.1.6	Seismic hazard	Is the building designed to withstand earthquake?	<p>The building ...</p> <p>5 – ... is designed and equipped in line with REDI and URSC standards to avoid damage to structure and protect occupants from hazards associated with earthquakes in the worst-case scenario in Essential 2.</p> <p>4 – ... is designed and equipped in line with REDI and URSC standards to avoid damage to structure and protect occupants from hazards associated with earthquakes in the "average case" scenario in Essential 2.</p> <p>3 – ... would suffer minor and short-lived impacts from an earthquake in the "average case" scenario.</p> <p>2 – ... would suffer more significant impacts from an earthquake in the "average case" scenario.</p> <p>1 – ... would suffer significant damage from an earthquake in the "average case" scenario.</p> <p>0 – ... would be probably be destroyed by an "average case" earthquake, and no seismic protections are in place for structure or occupants.</p>	<p>If no seismic risk, omit this assessment.</p> <p>Impacts may include damage or interruption to infrastructure services, communications, or road or rail access remote from the building itself (see 8.3 below).</p> <p>Seismic resistance is specified in local building codes, but these may not have kept up with changing scientific understanding, or changes to local urbanization levels and infrastructure.</p> <p>Examples of seismic hazard reduction:</p> <ul style="list-style-type: none">• Seismic reinforcement;• Protected utility services including gas;• Large equipment, heavy machinery, utility and process piping are all well secured;• Suspended ceilings braced;• Safety glass;• Regular inspections to secure structural and non-structural items.

Source: <https://www.undrr.org/media/89268/download?startDownload=true>